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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/608,743	06/30/2000	Jerrell P. Hein	75622.P0018	1566

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EXAMINER

BRINEY III, WALTER F

ART UNIT	PAPER NUMBER
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2615

DATE MAILED: 09/20/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 09/608,743	Applicant(s) HEIN ET AL.	
	Examiner Walter F. Briney III	Art Unit 2615	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 13 July 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,3,5-7,9,10,12-16 and 18-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,3,5-7,9,10,12,15,16 and 18 is/are rejected.
- 7) ☒ Claim(s) 13,14,19 and 20 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date: _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date: _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

1. **Claims 1, 3, 5-7, 9, 10, 12, 15, 16 and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rosch et al. (US Patent 5,274,702) in view of Robe (US Patent 4,151,482).**

Claim 1 is limited to "a method." This claim has been amended to include, *inter alia*, the limitations of claim 2 as filed on 18 March 2005, which were shown to be unpatentable in view of Rosch and Robe in the previous Office Action filed 09 February 2006 that is hereby incorporated by reference. Moreover, claim 1 has been amended to specify that the audio signal and linefeed driver control signals are received as currents on the same signal lines. As shown in the proceeding section entitled *Response to Arguments*, classifying an amplifier as a voltage amplifier is merely a mathematical convenience, but in reality, all amplifiers produce output currents in operation. In addition, current sources 142 and 144 also produce linefeed driver control currents. Therefore, Rosch in view of Robe makes obvious all limitations of the claim.

Claim 5 is limited to "a method." Similarly to claim 1, this claim has been amended to recite that that the signals are received as currents, which does not distinguish over the prior art. Therefore, Rosch in view of Robe makes obvious all limitations of the claim.

Claim 9 is limited to “a subscriber line interface circuit apparatus.” This claim has been amended such that the first circuit functions corresponding to the method steps of claim 1, which were shown to be unpatentable. Therefore, Rosch in view of Robe makes obvious all limitations of the claim.

Claim 15 is limited to “a subscriber line interface circuit apparatus.” This claim has been amended such that the first circuit functions corresponding to the method steps of claim 1, which were shown to be unpatentable. Therefore, Rosch in view of Robe makes obvious all limitations of the claim.

Claims 3, 6, 7, 10, 12, 16 and 18 depend variously from the above treated claims and are rejected for the respective reasons presented in the previous Office Action filed 09 February 2006 as well as those reasons pertaining to each claim’s parent.

2. **Claims 1, 5, 9 and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rosch in view of Pryor et al. (US Patent 4,284,958).**

Claim 1 is limited to “a method.” This claim has been amended to include, *inter alia*, the limitations of claim 2 as filed on 18 March 2005, which were shown to be unpatentable in view of Rosch and Pryor in the previous Office Action filed 09 February 2006 that is hereby incorporated by reference. Moreover, claim 1 has been amended to specify that the audio signal and linefeed driver control signals are received as currents on the same signal lines. As shown in the proceeding section entitled *Response to Arguments*, classifying an amplifier as a voltage amplifier is merely a mathematical convenience, but in reality, all amplifiers produce output currents in operation. In

addition, current sources 142 and 144 also produce linefeed driver control currents.

Therefore, Rosch in view of Robe makes obvious all limitations of the claim.

Claim 5 is limited to "a method." Similarly to claim 1, this claim has been amended to recite that the signals are received as currents, which does not distinguish over the prior art. Therefore, Rosch in view of Pryor makes obvious all limitations of the claim.

Claim 9 is limited to "a subscriber line interface circuit apparatus." This claim has been amended such that the first circuit functions corresponding to the method steps of claim 1, which were shown to be unpatentable. Therefore, Rosch in view of Pryor makes obvious all limitations of the claim.

Claim 15 is limited to "a subscriber line interface circuit apparatus." This claim has been amended such that the first circuit functions corresponding to the method steps of claim 1, which were shown to be unpatentable. Therefore, Rosch in view of Pryor makes obvious all limitations of the claim.

Allowable Subject Matter

The following is a statement of reasons for the indication of allowable subject matter:

1. **Claims 13, 14, 19 and 20 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.**

These claims are allowable for at least those reasons set forth in the Non-Final Office Action filed 23 May 2005.

Response to Arguments

Applicant's arguments filed 13 July 2006 have been fully considered but they are not persuasive.

On page 7, lines 15-16, the applicant alleges that Rosch's amplifiers are clearly voltage amplifiers and that the linefeed control and the audio signal are received as voltages that are applied to voltage amplifiers, which contrasts with the claim language requiring that the signals be received as currents; the examiner respectfully disagrees. It is established that there are four types of amplifier models. Each of the four models is used to describe the terminal behavior of the amplifier circuit. Note, the model is not the circuit, just a simplified mathematical representation. The models are given their names based on the input-output parameter pair they describe. For example, voltage amplifiers are models relating input voltage to output voltage while transconductance amplifiers are models relating input voltage to output current. Given the input and output resistances as well as the voltage gain of a voltage amplifier, for example, anyone could derive the corresponding amplifiers function as a transconductance amplifier using the formula:

$$A_{vo} = A_{is} (R_o/R_i)$$

where A_{vo} = voltage gain, R_o = output resistance, R_i = input resistance and A_{is} = transconductance gain.

In light of the above, it is clear that although Rosch discloses an apparently ubiquitous operational amplifier 104 that is typically modeled as a voltage amplifier, it is inherent that the amplifier also produces output current. Furthermore, elements 142 and 144 are current sources, meaning the current input to amplifier 132 is known.

On page 7, lines 17-24, the applicant alleges that "Rosch teaches away from the use of common base transistor amplifier stages since such configurations provide less than unity gain." The truth of this allegation notwithstanding, the combinations of Rosch and both Davis and Pryor do not simply produce a plurality of common base transistors, but an operational amplifier with a common base stage. Voltage amplification is generated in the other stages. As all of applicant's allegations have been shown to be either moot or unpersuasive, the rejections of claims 1-12 and 15-18 are maintained.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any

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extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Walter F. Briney III whose telephone number is 571-272-7513. The examiner can normally be reached on M-F 8am - 4:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Sinh Tran can be reached on 571-272-7564. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

WFB


SINH TRAN
SUPERVISORY PATENT EXAMINER